

Mr. Jeffrey A. Woodring, P.E.  
Grissom Air Reserve Base  
434 ARW/CC, Building 667  
Grissom Air Reserve Base, Indiana 46971-5000

Re: **103-11789**  
Significant Source Modification to:  
Part 70 permit No.: **T 103-7426-00008**

Dear Mr. Woodring:

Grissom Air Reserve Base was issued Part 70 operating permit **T 103-7426-00008** on December 1, 1999 for a military base. An application to modify the source was received on January 20, 2000. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

The following Insignificant Activities listed in Section A.3 of the permit:

- (u) One (1) natural gas fired boiler, identified as Boiler 100, located in Building 100, maximum capacity: 0.650 million British thermal units per hour.
- (v) One (1) natural gas fired boiler, identified as Boiler 209A, located in Building 209, maximum capacity: 2.70 million British thermal units per hour.
- (w) One (1) natural gas fired boiler, identified as Boiler 209B, located in Building 209, maximum capacity: 0.040 million British thermal units per hour.
- (x) One (1) natural gas fired roof top boiler, identified as Boiler 209RA, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (y) One (1) natural gas fired roof top boiler, identified as Boiler 209RB, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (z) One (1) natural gas fired roof top boiler, identified as Boiler 209RC, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (aa) One (1) natural gas fired boiler, identified as Boiler 325, located in Building 325, maximum capacity: 1.50 million British thermal units per hour.
- (bb) One (1) natural gas fired boiler, identified as Boiler 327, located in Building 327, maximum capacity: 5.00 million British thermal units per hour.
- (cc) One (1) natural gas fired boiler, identified as Boiler 330, located in Building 330, maximum capacity: 0.650 million British thermal units per hour.
- (dd) One (1) natural gas fired boiler, identified as Boiler 331, located in Building 331, maximum capacity: 5.00 million British thermal units per hour.

- (ee) One (1) natural gas fired boiler, identified as Boiler 420, located in Building 420, maximum capacity: 2.50 million British thermal units per hour.
- (ff) One (1) natural gas fired boiler, identified as Boiler 427, located in Building 427, maximum capacity: 3.00 million British thermal units per hour.
- (gg) One (1) natural gas fired boiler, identified as Boiler 430, located in Building 430, maximum capacity: 0.450 million British thermal units per hour.
- (hh) One (1) natural gas fired boiler, identified as Boiler 435, located in Building 435, maximum capacity: 0.900 million British thermal units per hour.
- (ii) One (1) natural gas fired boiler, identified as Boiler 431, located in Building 431, maximum capacity: 0.450 million British thermal units per hour.
- (jj) One (1) natural gas fired boiler, identified as Boiler 448, located in Building 448, maximum capacity: 0.650 million British thermal units per hour.
- (kk) One (1) natural gas fired boiler, identified as Boiler 453, located in Building 453, maximum capacity: 5.00 million British thermal units per hour.
- (ll) One (1) natural gas fired boiler, identified as Boiler 596A, located in Building 596, maximum capacity: 1.20 million British thermal units per hour.
- (mm) One (1) natural gas fired boiler, identified as Boiler 596B, located in Building 596, maximum capacity: 0.040 million British thermal units per hour.
- (nn) One (1) natural gas fired boiler, identified as Boiler 663, located in Building 663, maximum capacity: 1.50 million British thermal units per hour.
- (oo) One (1) natural gas fired boiler, identified as Boiler 667, located in Building 667, maximum capacity: 0.450 million British thermal units per hour.
- (pp) One (1) natural gas fired boiler, identified as Boiler 668, located in Building 668, maximum capacity: 0.450 million British thermal units per hour.
- (qq) One (1) natural gas fired boiler, identified as Boiler 670, located in Building 670, maximum capacity: 0.450 million British thermal units per hour.
- (rr) One (1) natural gas fired boiler, identified as Boiler 671, located in Building 671, maximum capacity: 0.650 million British thermal units per hour.
- (ss) One hundred and ten (110) natural gas fired infrared heaters, maximum capacity: 20.70 million British thermal units per hour, total.

The following construction conditions are applicable to the proposed project:

1. General Construction Conditions

The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may

affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).

2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment (AA 103-11821-00008) in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11. The Administrative Amendment (103-11821-00008) will give the source approval to operate.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact CarrieAnn Ortolani, c/o OAM, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Management

CAO/MES  
Attachments

cc: File - Miami County  
U.S. EPA, Region V  
Air Compliance Section Inspector - Ryan Hillman  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner

# **PART 70 OPERATING PERMIT OFFICE OF AIR MANAGEMENT**

**Grissom Air Reserve Base  
434 ARW/CC, Building 667  
Grissom Air Reserve Base, Indiana 46971-5000**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: T 103-7426-00008	
Issued by: Janet G. McCabe, Assistant Commissioner Office of Air Management	Issuance Date: December 1, 1999

First Administrative Amendment 103-11655-00008, issued on December 17, 1999

First Significant Source Modification: 103-11789-00008	Pages Affected: 5; 10 becomes 10a and 10b; and 46a and 46b added to the permit
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

D.6.7 Standards of Performance for Volatile Organic Liquid Storage Vessels [326 IAC 12]  
[40 CFR 60.116b]

**D.7 FACILITY OPERATION CONDITIONS - Insignificant boilers and heaters**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

D.7.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]

**Compliance Determination Requirements**

D.7.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]

**Certification**

**Emergency/Deviation Occurrence Report**

**Natural Gas-Fired Boiler Certification**

**Quarterly Reports (5)**

**Quarterly Compliance Monitoring Report**

- (20) One (1) propane storage tank, capacity: 4,000 gallons.
- (21) Several propane tanks equal or less than 1,000 gallons.
- (22) Twenty-four (24) diesel above ground storage tanks, capacity: less than 1,000 gallons.
- (23) One (1) gasoline above ground storage tank, capacity: less than 1,000 gallons.
- (24) One (1) JP-8 above ground storage tank, capacity: less than 1,000 gallons.
- (u) One (1) natural gas fired boiler, identified as Boiler 100, located in Building 100, maximum capacity: 0.650 million British thermal units per hour.
- (v) One (1) natural gas fired boiler, identified as Boiler 209A, located in Building 209, maximum capacity: 2.70 million British thermal units per hour.
- (w) One (1) natural gas fired boiler, identified as Boiler 209B, located in Building 209, maximum capacity: 0.040 million British thermal units per hour.
- (x) One (1) natural gas fired roof top boiler, identified as Boiler 209RA, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (y) One (1) natural gas fired roof top boiler, identified as Boiler 209RB, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (z) One (1) natural gas fired roof top boiler, identified as Boiler 209RC, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (aa) One (1) natural gas fired boiler, identified as Boiler 325, located in Building 325, maximum capacity: 1.50 million British thermal units per hour.
- (bb) One (1) natural gas fired boiler, identified as Boiler 327, located in Building 327, maximum capacity: 5.00 million British thermal units per hour.
- (cc) One (1) natural gas fired boiler, identified as Boiler 330, located in Building 330, maximum capacity: 0.650 million British thermal units per hour.
- (dd) One (1) natural gas fired boiler, identified as Boiler 331, located in Building 331, maximum capacity: 5.00 million British thermal units per hour.
- (ee) One (1) natural gas fired boiler, identified as Boiler 420, located in Building 420, maximum capacity: 2.50 million British thermal units per hour.
- (ff) One (1) natural gas fired boiler, identified as Boiler 427, located in Building 427, maximum capacity: 3.00 million British thermal units per hour.
- (gg) One (1) natural gas fired boiler, identified as Boiler 430, located in Building 430, maximum capacity: 0.450 million British thermal units per hour.
- (hh) One (1) natural gas fired boiler, identified as Boiler 435, located in Building 435, maximum capacity: 0.900 million British thermal units per hour.

- (ii) One (1) natural gas fired boiler, identified as Boiler 431, located in Building 431, maximum capacity: 0.450 million British thermal units per hour.
- (jj) One (1) natural gas fired boiler, identified as Boiler 448, located in Building 448, maximum capacity: 0.650 million British thermal units per hour.
- (kk) One (1) natural gas fired boiler, identified as Boiler 453, located in Building 453, maximum capacity: 5.00 million British thermal units per hour.
- (ll) One (1) natural gas fired boiler, identified as Boiler 596A, located in Building 596, maximum capacity: 1.20 million British thermal units per hour.
- (mm) One (1) natural gas fired boiler, identified as Boiler 596B, located in Building 596, maximum capacity: 0.040 million British thermal units per hour.
- (nn) One (1) natural gas fired boiler, identified as Boiler 663, located in Building 663, maximum capacity: 1.50 million British thermal units per hour.
- (oo) One (1) natural gas fired boiler, identified as Boiler 667, located in Building 667, maximum capacity: 0.450 million British thermal units per hour.
- (pp) One (1) natural gas fired boiler, identified as Boiler 668, located in Building 668, maximum capacity: 0.450 million British thermal units per hour.
- (qq) One (1) natural gas fired boiler, identified as Boiler 670, located in Building 670, maximum capacity: 0.450 million British thermal units per hour.
- (rr) One (1) natural gas fired boiler, identified as Boiler 671, located in Building 671, maximum capacity: 0.650 million British thermal units per hour.
- (ss) One hundred and ten (110) natural gas fired infrared heaters, maximum capacity: 20.70 million British thermal units per hour, total.

**A.4 Part 70 Permit Applicability [326 IAC 2-7-2]**

This stationary source is required to have a Part 70 permit by 326 IAC 2-7-2 (Applicability) because:

- (a) It is a major source, as defined in 326 IAC 2-7-1(22);
- (b) It is a source in a source category designated by the United States Environmental Protection Agency (U.S. EPA) under 40 CFR 70.3 (Part 70 - Applicability).

## SECTION D.7

## FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)] - Insignificant Activities

- (u) One (1) natural gas fired boiler, identified as Boiler 100, located in Building 100, maximum capacity: 0.650 million British thermal units per hour.
- (w) One (1) natural gas fired boiler, identified as Boiler 209A, located in Building 209, maximum capacity: 2.70 million British thermal units per hour.
- (x) One (1) natural gas fired boiler, identified as Boiler 209B, located in Building 209, maximum capacity: 0.040 million British thermal units per hour.
- (y) One (1) natural gas fired roof top boiler, identified as Boiler 209RA, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (z) One (1) natural gas fired roof top boiler, identified as Boiler 209RB, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (aa) One (1) natural gas fired roof top boiler, identified as Boiler 209RC, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (bb) One (1) natural gas fired boiler, identified as Boiler 325, located in Building 325, maximum capacity: 1.50 million British thermal units per hour.
- (cc) One (1) natural gas fired boiler, identified as Boiler 327, located in Building 327, maximum capacity: 5.00 million British thermal units per hour.
- (dd) One (1) natural gas fired boiler, identified as Boiler 330, located in Building 330, maximum capacity: 0.650 million British thermal units per hour.
- (ee) One (1) natural gas fired boiler, identified as Boiler 331, located in Building 331, maximum capacity: 5.00 million British thermal units per hour.
- (ff) One (1) natural gas fired boiler, identified as Boiler 420, located in Building 420, maximum capacity: 2.50 million British thermal units per hour.
- (gg) One (1) natural gas fired boiler, identified as Boiler 427, located in Building 427, maximum capacity: 3.00 million British thermal units per hour.
- (hh) One (1) natural gas fired boiler, identified as Boiler 430, located in Building 430, maximum capacity: 0.450 million British thermal units per hour.
- (ii) One (1) natural gas fired boiler, identified as Boiler 435, located in Building 435, maximum capacity: 0.900 million British thermal units per hour.
- (jj) One (1) natural gas fired boiler, identified as Boiler 431, located in Building 431, maximum capacity: 0.450 million British thermal units per hour.
- (kk) One (1) natural gas fired boiler, identified as Boiler 448, located in Building 448, maximum capacity: 0.650 million British thermal units per hour.
- (ll) One (1) natural gas fired boiler, identified as Boiler 453, located in Building 453, maximum capacity: 5.00 million British thermal units per hour.
- (mm) One (1) natural gas fired boiler, identified as Boiler 596A, located in Building 596, maximum capacity: 1.20 million British thermal units per hour.
- (nn) One (1) natural gas fired boiler, identified as Boiler 596B, located in Building 596, maximum capacity: 0.040 million British thermal units per hour.



- (oo) One (1) natural gas fired boiler, identified as Boiler 667, located in Building 667, maximum capacity: 0.450 million British thermal units per hour.
- (pp) One (1) natural gas fired boiler, identified as Boiler 668, located in Building 668, maximum capacity: 0.450 million British thermal units per hour.
- (qq) One (1) natural gas fired boiler, identified as Boiler 670, located in Building 670, maximum capacity: 0.450 million British thermal units per hour.
- (rr) One (1) natural gas fired boiler, identified as Boiler 671, located in Building 671, maximum capacity: 0.650 million British thermal units per hour.
- (The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

#### **D.7.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]**

Pursuant to 326 IAC 6-2-4, the PM emissions from each of the twenty-four (24) boilers shall not exceed 0.24 pounds per million British thermal units. The limitation was computed using the following equation:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used. (Q = 343 million British thermal units per hour)

### **Compliance Determination Requirements**

#### **D.7.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]**

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM limits specified in Condition D.7.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

## **Indiana Department of Environmental Management Office of Air Management**

### **Technical Support Document (TSD) for a Part 70 Significant Source Modification**

#### **Source Background and Description**

<b>Source Name:</b>	<b>Grissom Air Reserve Base</b>
<b>Source Location:</b>	<b>434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971-5000</b>
<b>County:</b>	<b>Miami</b>
<b>SIC Code:</b>	<b>9711</b>
<b>Operation Permit No.:</b>	<b>T 103-7426-00008</b>
<b>Operation Permit Issuance Date:</b>	<b>December 1, 1999</b>
<b>Significant Source Modification No.:</b>	<b>103-11789-00008</b>
<b>Permit Reviewer:</b>	<b>CarrieAnn Ortolani</b>

The Office of Air Management (OAM) has reviewed a modification application from Grissom Air Reserve Base relating to the construction of the following emission units and pollution control devices, all of which are insignificant activities:

- (a) One (1) natural gas fired boiler, identified as Boiler 100, located in Building 100, maximum capacity: 0.650 million British thermal units per hour.
- (b) One (1) natural gas fired boiler, identified as Boiler 209A, located in Building 209, maximum capacity: 2.70 million British thermal units per hour.
- (c) One (1) natural gas fired boiler, identified as Boiler 209B, located in Building 209, maximum capacity: 0.040 million British thermal units per hour.
- (d) One (1) natural gas fired roof top boiler, identified as Boiler 209RA, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (e) One (1) natural gas fired roof top boiler, identified as Boiler 209RB, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (f) One (1) natural gas fired roof top boiler, identified as Boiler 209RC, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (g) One (1) natural gas fired boiler, identified as Boiler 325, located in Building 325, maximum capacity: 1.50 million British thermal units per hour.
- (h) One (1) natural gas fired boiler, identified as Boiler 327, located in Building 327, maximum capacity: 5.00 million British thermal units per hour.
- (i) One (1) natural gas fired boiler, identified as Boiler 330, located in Building 330, maximum capacity: 0.650 million British thermal units per hour.

- (j) One (1) natural gas fired boiler, identified as Boiler 331, located in Building 331, maximum capacity: 5.00 million British thermal units per hour.
- (k) One (1) natural gas fired boiler, identified as Boiler 420, located in Building 420, maximum capacity: 2.50 million British thermal units per hour.
- (l) One (1) natural gas fired boiler, identified as Boiler 427, located in Building 427, maximum capacity: 3.00 million British thermal units per hour.
- (m) One (1) natural gas fired boiler, identified as Boiler 430, located in Building 430, maximum capacity: 0.450 million British thermal units per hour.
- (n) One (1) natural gas fired boiler, identified as Boiler 435, located in Building 435, maximum capacity: 0.900 million British thermal units per hour.
- (o) One (1) natural gas fired boiler, identified as Boiler 431, located in Building 431, maximum capacity: 0.450 million British thermal units per hour.
- (p) One (1) natural gas fired boiler, identified as Boiler 448, located in Building 448, maximum capacity: 0.650 million British thermal units per hour.
- (q) One (1) natural gas fired boiler, identified as Boiler 453, located in Building 453, maximum capacity: 5.00 million British thermal units per hour.
- (r) One (1) natural gas fired boiler, identified as Boiler 596A, located in Building 596, maximum capacity: 1.20 million British thermal units per hour.
- (s) One (1) natural gas fired boiler, identified as Boiler 596B, located in Building 596, maximum capacity: 0.040 million British thermal units per hour.
- (t) One (1) natural gas fired boiler, identified as Boiler 663, located in Building 663, maximum capacity: 1.50 million British thermal units per hour.
- (u) One (1) natural gas fired boiler, identified as Boiler 667, located in Building 667, maximum capacity: 0.450 million British thermal units per hour.
- (v) One (1) natural gas fired boiler, identified as Boiler 668, located in Building 668, maximum capacity: 0.450 million British thermal units per hour.
- (w) One (1) natural gas fired boiler, identified as Boiler 670, located in Building 670, maximum capacity: 0.450 million British thermal units per hour.
- (x) One (1) natural gas fired boiler, identified as Boiler 671, located in Building 671, maximum capacity: 0.650 million British thermal units per hour.
- (y) One hundred and ten (110) natural gas fired infrared heaters, maximum capacity: 20.70 million British thermal units per hour, total.

#### **Enforcement Issue**

There are no enforcement actions pending.

## Recommendation

The staff recommends to the Commissioner that the Part 70 Significant Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 20, 2000.

## Emission Calculations

See pages 1 through 4 of 4 of Appendix A of this document for detailed emissions calculations.

## Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA.”

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit.

Pollutant	Potential To Emit (tons/year)
PM	0.651
PM <sub>10</sub>	2.61
SO <sub>2</sub>	0.205
VOC	1.89
CO	28.8
NO <sub>x</sub>	34.3

HAP's	Potential To Emit (tons/year)
Benzene	7.20E-4
Dichlorobenzene	4.11E-4
Formaldehyde	2.57E-2
Hexane	6.17E-1
Toluene	1.17E-3
Lead	1.71E-4
Cadmium	3.77E-4

HAP's	Potential To Emit (tons/year)
Chromium	4.80E-4
Manganese	1.30E-4
Nickel	7.20E-4
TOTAL	0.647

#### Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Significant Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5(f)(4)(c), any modification with a potential to emit greater than or equal to twenty-five (25) tons per year of Nitrogen oxides (NO<sub>x</sub>). Since the Title V Operating Permit has been issued, this approval is an approval to construct only. The Administrative Amendment (103-11821-00008) is an approval to operate.

#### County Attainment Status

The source is located in Miami County.

Pollutant	Status
PM <sub>10</sub>	attainment
SO <sub>2</sub>	attainment
NO <sub>2</sub>	attainment
Ozone	attainment
CO	attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Miami County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Miami County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (c) Fugitive Emissions  
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive PM emissions are not counted toward determination of PSD and Emission Offset applicability.

### Source Status

Existing Source PSD Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	42.7
PM <sub>10</sub>	44.1
SO <sub>2</sub>	400
VOC	62.8
CO	110
NO <sub>x</sub>	150

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not one of the 28 listed source categories.
- (b) These emissions are based upon the limited potential to emit according to the table in the Technical Support Document to T 103-7426-00008, issued on December 1, 1999.

### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

Pollutant	PM (tons/yr)	PM <sub>10</sub> (tons/yr)	SO <sub>2</sub> (tons/yr)	VOC (tons/yr)	CO (tons/yr)	NO <sub>x</sub> (tons/yr)
Proposed Modification	0.651	2.61	0.205	1.89	28.8	34.3
PSD or Offset Significant Level	25	15	40	40	100	40

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

### Federal Rule Applicability

- (a) The twenty-four (24) boilers are not subject to the requirements of the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc), because each boiler has a capacity less than 10 million British thermal units per hour.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this proposed modification.

### State Rule Applicability - Individual Facilities

326 IAC 6-2-4 (Particulate Emissions Limitations for Facilities Constructed after September 21, 1983)

The twenty-four (24) boilers, with a total heat input capacity of 57.57 million British thermal units per hour, and individual heat input capacities of 5.0 million British thermal units or less must have PM emissions of no more than 0.24 pound per million British thermal units in order to comply 326 IAC 6-2-4. The following equation is given in 326 IAC 6-2-4:

$$Pt = 1.09/Q^{0.26}$$

where:

Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input

Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the nameplate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.

Since the twenty-four (24) boilers are being constructed at the same time, the total source operating capacity will be the total capacity of the twenty-four (24) boilers plus the operating capacity prior to the modification. The total capacity of the source prior to the modification, with all units operating on natural gas is 286 million British thermal units per hour. Therefore, the total source operating capacity is 343 million British thermal units per hour.

$$Pt = 1.09/(343)^{0.26} = 0.24 \text{ lb/MMBtu heat input}$$

Based on Appendix A, the potential PM emission rate is:

$$0.479 \text{ tons/yr} \times (2000 \text{ lbs/ton} / 8760 \text{ hrs/yr}) = 0.109 \text{ lbs/hr} \\ (0.109 \text{ lbs/hr} / 57.57 \text{ MMBtu/hr}) = 0.002 \text{ lbs PM per MMBtu}$$

Therefore, the twenty-four (24) boilers will comply with this rule.

### Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action.

However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this modification.

### Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in bold):

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)]  
[326 IAC 2-7-5(15)]

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This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (a) Natural gas-fired combustion sources with heat input equal to or less than ten million (10,000,000) British thermal units per hour.
- (b) Fuel oil-fired combustion sources with heat input equal to or less than two million (2,000,000) British thermal units per hour and firing fuel containing less than five-tenths (0.5) percent sulfur by weight.
- (c) Equipment powered by internal combustion engines of capacity equal to or less than 500,000 British thermal units per hour, except where total capacity of equipment operated by one stationary source exceeds 2,000,000 British thermal units per hour.
- (d) A gasoline fuel transfer and dispensing operation handling less than or equal to 1,300 gallons per day, such as filling of tanks, locomotives, automobiles, having a storage capacity less than or equal to 10,500 gallons.
- (e) VOC and HAP storage tanks with capacities less than or equal to 1,000 gallons and annual throughputs less than 12,000 gallons.
- (f) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6. Several cold cleaner degreasing units using only non-halogenated solvents. [326 IAC 8-3-2][326 IAC 8-3-5]
- (g) The following equipment related to manufacturing activities not resulting in the emission of HAPs: brazing equipment, cutting torches, soldering equipment, welding equipment. [326 IAC 6-3]
- (h) Groundwater oil recovery wells.
- (i) Any operation using aqueous solutions containing less than one percent (1%) by weight of VOCs excluding HAPs.
- (j) Stockpiled soils from soil remediation activities that are covered and waiting transport for disposal.
- (k) Paved and unpaved roads and parking lots with public access.
- (l) Asbestos abatement projects regulated by 326 IAC 14-10.



- (m) Purging of gas lines and vessels that is related to routine maintenance and repair of buildings, structures, or vehicles at the source where air emissions from those activities would not be associated with any production process.
- (n) Equipment used to collect any material that might be released during a malfunction, process upset, or spill cleanup, including catch tanks, temporary liquid separators, tanks, and fluid handling equipment.
- (o) Blowdown for any of the following: sight glass; boiler; compressors; pumps; and cooling tower.
- (p) On-site fire and emergency response training approved by the department.
- (q) Emergency generators as follows:
  - Gasoline generators not exceeding 110 horsepower.
  - Diesel generators not exceeding 1,600 horsepower.
  - Natural gas turbines or reciprocating engines not exceeding 16,000 horsepower.
- (r) Grinding and machining operations controller with fabric filters, scrubbers, mist collectors, wet collectors and electrostatic precipitators with a design grain loading of less than or equal to 0.03 grains per actual cubic foot and a gas flow rate less than or equal to 4,000 actual cubic feet per minute, including the following: deburring; buffing; polishing; abrasive blasting; pneumatic conveying; and woodworking operations. [326 IAC 6-3]
- (s) Activities or categories of activities with HAP emissions greater than 1 pound per day but less than 12.5 pounds per day or 2.5 tons per year of any combination of HAPs:
  - (1) Installation of compass and global positioning equipment and replacing radar equipment on Air Force planes in Nose Dock 2 (including painting operations). [326 IAC 6-3]
  - (2) Fuel cell repair
  - (3) JP-8 fuel handling
  - (4) Low point draw box remediation
- (t) Other activities or categories with emissions below insignificant thresholds:
  - (1) Four (4) media blasters, equipped with 99% efficient bag filters, operating an average of three (3) hours per day. [326 IAC 6-3]
  - (2) One (1) no. 2 fuel oil tank, identified as 600, installed in 1986, capacity: 12,000 gallons. [326 IAC 12][40 CFR 60.116b]
  - (3) One (1) no. 2 fuel oil tank, identified as 592A, installed in 1998, capacity: 15,000 gallons. [326 IAC 12][40 CFR 60.116b]
  - (4) One (1) diesel tank, identified as 223, installed in 1994, capacity: 2,000 gallons.
  - (5) One (1) fuel oil tank, identified as 235, installed in 1976, capacity 420,000 gallons.

- (6) One (1) diesel tank, identified as 380, installed in 1991, capacity: 10,000.
- (7) One (1) gasoline tank, identified as 392, installed in 1978, capacity: 25,000 gallons.
- (8) One (1) diesel tank, identified as 447, installed in 1995, capacity: 10,000 gallons.
- (9) One (1) diesel tank, identified as 593B, installed in 1990, capacity: 2,000 gallons.
- (10) One (1) JP-8 storage tank, identified as 593A, installed in 1990, capacity: 2,000 gallons.
- (11) One (1) no. 2 fuel oil storage tank, identified as 593C, installed in 1990, capacity: 2,000 gallons.
- (12) Two (2) no. 2 fuel oil storage tanks, identified as 595 and 597, installed in 1993 and 1985, capacity: 4,000 gallons, each.
- (13) One (1) gasoline storage tank, identified as 419A, installed in 1987, capacity: 10,000 gallons.
- (14) One (1) gasoline tank, identified as 419B, installed in 1987, capacity: 10,000 gallons.
- (15) One (1) diesel storage tank, identified as 419C, installed in 1987, capacity: 10,000 gallons.
- (16) One (1) no. 2 fuel oil storage tank, identified as 591A, installed in 1998, capacity: 5,000 gallons.
- (17) Six (6) fuel oil above ground storage tanks, capacity: less than 1,000 gallons.
- (18) Two (2) propylene glycol above ground storage tanks, capacity: less than 1,000 gallons.
- (19) One (1) propane storage tank, capacity: 10,000 gallons.
- (20) One (1) propane storage tank, capacity: 4,000 gallons.
- (21) Several propane tanks equal or less than 1,000 gallons.
- (22) Twenty-four (24) diesel above ground storage tanks, capacity: less than 1,000 gallons.
- (23) One (1) gasoline above ground storage tank, capacity: less than 1,000 gallons.
- (24) One (1) JP-8 above ground storage tank, capacity: less than 1,000 gallons.
- (u) **One (1) natural gas fired boiler, identified as Boiler 100, located in Building 100, maximum capacity: 0.650 million British thermal units per hour.**
- (e) **One (1) natural gas fired boiler, identified as Boiler 209A, located in Building 209, maximum capacity: 2.70 million British thermal units per hour.**

- (w) One (1) natural gas fired boiler, identified as Boiler 209B, located in Building 209, maximum capacity: 0.040 million British thermal units per hour.
- (x) One (1) natural gas fired roof top boiler, identified as Boiler 209RA, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (y) One (1) natural gas fired roof top boiler, identified as Boiler 209RB, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (z) One (1) natural gas fired roof top boiler, identified as Boiler 209RC, located in Building 209, maximum capacity: 0.250 million British thermal units per hour.
- (aa) One (1) natural gas fired boiler, identified as Boiler 325, located in Building 325, maximum capacity: 1.50 million British thermal units per hour.
- (bb) One (1) natural gas fired boiler, identified as Boiler 327, located in Building 327, maximum capacity: 5.00 million British thermal units per hour.
- (cc) One (1) natural gas fired boiler, identified as Boiler 330, located in Building 330, maximum capacity: 0.650 million British thermal units per hour.
- (dd) One (1) natural gas fired boiler, identified as Boiler 331, located in Building 331, maximum capacity: 5.00 million British thermal units per hour.
- (ee) One (1) natural gas fired boiler, identified as Boiler 420, located in Building 420, maximum capacity: 2.50 million British thermal units per hour.
- (ff) One (1) natural gas fired boiler, identified as Boiler 427, located in Building 427, maximum capacity: 3.00 million British thermal units per hour.
- (gg) One (1) natural gas fired boiler, identified as Boiler 430, located in Building 430, maximum capacity: 0.450 million British thermal units per hour.
- (hh) One (1) natural gas fired boiler, identified as Boiler 435, located in Building 435, maximum capacity: 0.900 million British thermal units per hour.
- (ii) One (1) natural gas fired boiler, identified as Boiler 431, located in Building 431, maximum capacity: 0.450 million British thermal units per hour.
- (jj) One (1) natural gas fired boiler, identified as Boiler 448, located in Building 448, maximum capacity: 0.650 million British thermal units per hour.
- (kk) One (1) natural gas fired boiler, identified as Boiler 453, located in Building 453, maximum capacity: 5.00 million British thermal units per hour.
- (ll) One (1) natural gas fired boiler, identified as Boiler 596A, located in Building 596, maximum capacity: 1.20 million British thermal units per hour.
- (mm) One (1) natural gas fired boiler, identified as Boiler 596B, located in Building 596, maximum capacity: 0.040 million British thermal units per hour.
- (nn) One (1) natural gas fired boiler, identified as Boiler 663, located in Building 663,

**maximum capacity: 1.50 million British thermal units per hour.**

- (oo) One (1) natural gas fired boiler, identified as Boiler 667, located in Building 667, maximum capacity: 0.450 million British thermal units per hour.**
- (pp) One (1) natural gas fired boiler, identified as Boiler 668, located in Building 668, maximum capacity: 0.450 million British thermal units per hour.**
- (qq) One (1) natural gas fired boiler, identified as Boiler 670, located in Building 670, maximum capacity: 0.450 million British thermal units per hour.**
- (rr) One (1) natural gas fired boiler, identified as Boiler 671, located in Building 671, maximum capacity: 0.650 million British thermal units per hour.**
- (ss) One hundred and ten (110) natural gas fired infrared heaters, maximum capacity: 20.70 million British thermal units per hour, total.**

These facilities, with the exception of (ss), were also added to a Facility Description box in a new section, Section D.7 of the permit. Item (ss) was not included in the Facility Description box because there are no applicable rules. Item (ss) is included in Section A.3 of the permit because, during Title V review, the applicant requested that all insignificant emissions units be included in Section A.3. The following Conditions have been added to the permit:

#### **Emission Limitations and Standards [326 IAC 2-7-5(1)]**

##### **D.7.1 Particulate Matter Limitation (PM) [326 IAC 6-2-4]**

Pursuant to 326 IAC 6-2-4, the PM emissions from each of the twenty-four (24) boilers shall not exceed 0.24 pounds per million British thermal units. The limitation was computed using the following equation:

$$Pt = 1.09/Q^{0.26}$$

where:

**Pt = Pounds of particulate matter emitted per million British thermal units (lb/MMBtu) heat input**

**Q = Total source maximum operating capacity rating in million British thermal units per hour (MMBtu/hr) heat input. The maximum operating capacity rating is defined as the maximum capacity at which the facility is operated or the name-plate capacity, whichever is specified in the facility's permit application, except when some lower capacity is contained in the facility's operation permit; in which case, the capacity specified in the operation permit shall be used.**

#### **Compliance Determination Requirements**

##### **D.7.2 Testing Requirements [326 IAC 2-7-6(1),(6)][326 IAC 2-1.1-11]**

The Permittee is not required to test these facilities by this permit. However, IDEM may require compliance testing when necessary to determine if the facilities are in compliance. If testing is required by IDEM, compliance with the PM and SO<sub>2</sub> limits specified in Conditions D.1.1 and D.1.2 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

## **Conclusion**

The construction of this proposed modification shall be subject to the conditions of the attached proposed Part 70 Significant Source Modification No. 103-11789-00008.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**

**Company Name: Grissom Air Reserve Base**  
**Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971**  
**MSOP: 103-11789**  
**Plt ID: 103-00008**  
**Reviewer: CarrieAnn Ortolani**  
**Date: January 20, 2000**

**110 Infrared Heaters**

Heat Input Capacity                      Potential Throughput  
MMBtu/hr                                      MMBtu/yr

20.70

181.29

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.172	0.689	0.054	9.06	0.499	7.61

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

**Appendix A: Emissions Calculations**

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**Natural Gas Combustion Only****MM BTU/HR <100****HAPs Emissions**

**Company Name:** Grissom Air Reserve Base  
**Address City IN Zip:** 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971  
**MSOP:** 103-11789  
**Pit ID:** 103-00008  
**Reviewer:** CarrieAnn Ortolani  
**Date:** January 20, 2000

**110 Infrared Heaters****HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	1.904E-04	1.088E-04	6.798E-03	1.632E-01	3.082E-04

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	4.532E-05	9.971E-05	1.269E-04	3.444E-05	1.904E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

**Appendix A: Emissions Calculations**  
**Natural Gas Combustion Only**  
**MM BTU/HR <100**  
**Small Industrial Boilers**

**Company Name: Grissom Air Reserve Base**  
**Address City IN Zip: 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971**  
**MSOP: 103-11789**  
**Pit ID: 103-00008**  
**Reviewer: CarrieAnn Ortolani**  
**Date: January 20, 2000**

**24 Boilers**

Heat Input Capacity  
MMBtu/hr

Potential Throughput  
MMCF/yr

57.57

504.31

Emission Factor in lb/MMCF	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
	1.9	7.6	0.6	100.0	5.5	84.0
				**see below		
Potential Emission in tons/yr	0.479	1.92	0.151	25.2	1.39	21.2

\*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

\*\*Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

**Methodology**

All emission factors are based on normal firing.

MMBtu = 1,000,000 Btu

MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu

Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)

Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton

Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 4 for HAPs emissions calculations.



**Appendix A: Emissions Calculations**

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**Natural Gas Combustion Only****MM BTU/HR <100****Small Industrial Boilers****HAPs Emissions**

**Company Name:** Grissom Air Reserve Base  
**Address City IN Zip:** 434 ARW/CC, Building 667, Grissom Air Reserve Base, IN 46971  
**MSOP:** 103-11789  
**Pit ID:** 103-00008  
**Reviewer:** CarrieAnn Ortolani  
**Date:** January 20, 2000

**24 Boilers****HAPs - Organics**

Emission Factor in lb/MMcf	Benzene 2.1E-03	Dichlorobenzene 1.2E-03	Formaldehyde 7.5E-02	Hexane 1.8E+00	Toluene 3.4E-03
Potential Emission in tons/yr	5.295E-04	3.026E-04	1.891E-02	4.539E-01	8.573E-04

**HAPs - Metals**

Emission Factor in lb/MMcf	Lead 5.0E-04	Cadmium 1.1E-03	Chromium 1.4E-03	Manganese 3.8E-04	Nickel 2.1E-03
Potential Emission in tons/yr	1.261E-04	2.774E-04	3.530E-04	9.582E-05	5.295E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.  
Additional HAPs emission factors are available in AP-42, Chapter 1.4.